

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-___

NPDES NO. CA0082511

MONITORING AND REPORTING PROGRAM
FOR
AAF-McQUAY, INC., ET AL.
GROUNDWATER REMEDIATION SYSTEM
TULARE COUNTY

Specific sample station locations shall be established with concurrence of the Regional Board's staff, and the Discharger shall attach a description of the stations to this Monitoring and Reporting Program. All analyses shall be performed using methods approved by USEPA and the Regional Board. In reporting data, the Discharger shall indicate whether any analysis was performed using a method not in conformance with USEPA's guidelines.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge the Discharger shall monitor and record influent, mid-treatment, and effluent data for all of the constituents listed below, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. For this Order, the Regional Board considers an intermittent discharge, any period of no discharge prolonged more than seven days. In no event shall the Discharger be required to monitor and record the data more often than twice the frequencies listed in the schedule.

INFLUENT MONITORING

Samples shall be collected prior to entering each groundwater cleanup system (GWCS) at approximately the same time as effluent samples. Influent samples shall be representative of the volume and quality of extracted groundwater. The time of collection of samples shall be recorded. Influent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Conductivity @25 C	µmhos/cm	Grab	Monthly
Chloromethane ¹	µg/L	Grab	Quarterly
Chloroform ¹	µg/L	Grab	Quarterly
1,1-Dichloroethane ¹	µg/L	Grab	Quarterly
1,1-Dichloroethylene ¹	µg/L	Grab	Quarterly
cis-1,2-Dichloroethylene ²	µg/L	Grab	Quarterly
trans-1,2-Dichloroethylene ¹	µg/L	Grab	Quarterly
Tetrachloroethylene ¹	µg/L	Grab	Quarterly
1,1,1-Trichloroethane ¹	µg/L	Grab	Quarterly
1,1,2-Trichloroethane ¹	µg/L	Grab	Quarterly

Trichloroethylene ¹	µg/L	Grab	Quarterly
Vinyl Chloride ¹	µg/L	Grab	Quarterly
1,2-Dichloroethane ¹	µg/L	Grab	Quarterly
Other VOCs ^{1,3,4}	µg/L	Grab	Quarterly

¹ Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L.

² Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

³ All typical volatile organic constituents listed in Appendix 4 of the SIP.

⁴ VOCs = Volatile Organic Compounds.

MID-TREATMENT MONITORING

In order to detect breakthrough of the GAC units, samples shall be collected between each GAC unit. Mid-Treatment samples shall be representative of the volume and quality of the discharge from each GAC unit. Time of collection of samples shall be recorded. Mid-Treatment monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Chloromethane ¹	µg/L	Grab	Quarterly
Chloroform ¹	µg/L	Grab	Quarterly
1,1-Dichloroethane ¹	µg/L	Grab	Quarterly
1,1-Dichloroethylene ¹	µg/L	Grab	Quarterly
cis-1,2-Dichloroethylene ²	µg/L	Grab	Quarterly
trans-1,2-Dichloroethylene ¹	µg/L	Grab	Quarterly
Tetrachloroethylene ¹	µg/L	Grab	Quarterly
1,1,1-Trichloroethane ¹	µg/L	Grab	Quarterly
1,1,2-Trichloroethane ¹	µg/L	Grab	Quarterly
Trichloroethylene ¹	µg/L	Grab	Quarterly
Vinyl Chloride ¹	µg/L	Grab	Quarterly
1,2-Dichloroethane ¹	µg/L	Grab	Quarterly
Other VOCs ^{1,3,4}	µg/L	Grab	Quarterly

¹ Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

² Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

³ All typical volatile organic constituents listed in Appendix 4 of the SIP.

⁴ VOCs = Volatile Organic Compounds.

EFFLUENT MONITORING

Effluent samples shall be collected at each treatment system, after the discharge is treated, and prior to discharge to North Branch Mill Creek Ditch or the agricultural fields. The monitoring station for GAC Unit No. 28B5/28G1, which discharges to North Branch Mill Creek Ditch via **Discharge 001**, shall be designated **D-1**. The monitoring station for GAC Unit No. 28E3, which discharges to North Branch Mill Creek Ditch via **Discharge 003**, shall be designated **D-2**. Effluent samples shall be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>	<u>Monitoring Station¹</u>
Total Daily Flow	gpd	Measured	Weekly	D-1, D-2
pH	pH units	Grab	Monthly	D-1, D-2
Conductivity @ 25°C	µmhos/cm	Grab	Monthly	D-1, D-2
Dissolved Oxygen	mg/L	Grab	Monthly	D-1, D-2
Boron	mg/L	Grab	Monthly	D-1, D-2
Chloride	mg/L	Grab	Monthly	D-1, D-2
Copper ²	µg/L	Grab	Monthly	D-1, D-2
	lbs/day	Calculation	Monthly	D-1, D-2, (D-1+D-2)
Chloromethane ³	µg/L	Grab	Monthly	D-1, D-2
Chloroform ³	µg/L	Grab	Monthly	D-1, D-2
1,1-Dichloroethane ³	µg/L	Grab	Monthly	D-1, D-2
1,1-Dichloroethylene ³	µg/L	Grab	Monthly	D-1, D-2
cis-1,2-Dichloroethylene ⁴	µg/L	Grab	Monthly	D-1, D-2
trans-1,2-Dichloroethylene ³	µg/L	Grab	Monthly	D-1, D-2
Tetrachloroethylene ³	µg/L	Grab	Monthly	D-1, D-2
1,1,1-Trichloroethane ³	µg/L	Grab	Monthly	D-1, D-2
1,1,2-Trichloroethane ³	µg/L	Grab	Monthly	D-1, D-2
Trichloroethylene ³	µg/L	Grab	Monthly	D-1, D-2
Vinyl Chloride ³	µg/L	Grab	Monthly	D-1, D-2
1,2-Dichloroethane ³	µg/L	Grab	Monthly	D-1, D-2
Other VOCs ^{3,5,6}	µg/L	Grab	Quarterly	D-1, D-2
Acute Toxicity	%survival	Grab	Annually	D-1, D-2

- ¹ Stations D-1 and D-2 represent effluent from the two treatment systems prior to discharge to North Branch Mill Creek Ditch or prior to diversion to the agricultural fields.
- ² Mass emission rates (MER) and copper concentrations shall be reported for D-1, D-2, and a summation (summation for MER only).
- ³ Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
- ⁴ Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
- ⁵ All typical volatile organic constituents listed in Appendix 4 of the SIP.
- ⁶ VOCs = Volatile Organic Compounds.

If results of monitoring a pollutant appear to violate monthly average limitations, the frequency of sampling should be increased to daily until compliance is verified. If effluent monitoring detects a pollutant at concentrations greater than a daily maximum limitation, the Discharger should resample and reanalyze the discharge immediately after receiving knowledge of the exceedance. If the Discharger does not increase monitoring frequency for instances of apparent violation, compliance with Daily Maximum and Monthly Average limitations will be determined with available monitoring data in accordance with Provision F.14.

CALIFORNIA TOXICS RULE MONITORING

Priority Pollutants:

The Discharger shall monitor the effluent and receiving water twice during the term of this Permit for Metals, Volatile Organic, and Semi-Volatile Organic priority pollutants and submit results to the Regional Board **by 30 June 2007** and again at least **one year prior** to the expiration of this Order. Priority pollutants are defined as USEPA priority toxic pollutants, and consist of the constituents listed in the most recent National Toxics Rule and California Toxics Rule. Volatile Organic priority pollutants are listed in Tables 2a and 2b in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Bays, and Estuaries of California* (SIP). Results of sampling shall be submitted by the **first day of the second month** following sampling. Reporting shall conform with SIP Reporting Requirements, Section 2.4 et seq. In particular, the reported Minimum Levels (MLs) shall be at least as low as the lowest ML for each priority pollutant specified in Appendix 4 of the SIP. **Effluent and receiving water samples must be** analyzed for pH and hardness in order to calculate translators, which are needed for pollutants that are hardness and/or pH dependent. All analyses shall be performed at a laboratory certified by the California Department of Health Services.

<u>Constituent</u> ^{1,2}	<u>Units</u>	<u>Type of Sample</u>
Mercury	µg/L	Grab
Arsenic	µg/L	Grab
Chromium VI	µg/L	Grab

Metals	µg/L	Grab
Volatile Organics	µg/L	Grab
Semi-Volatile Organics	µg/L	Grab
Pesticides	µg/L	Grab

- 1 Constituents shall be analyzed using a method approved by USEPA. The chosen analytical method must be able to achieve the required quantitation limit for the given constituent, as specified by the MLs listed in Appendix 4 of the SIP.
- 2 Report all detected peaks.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Samples shall be collected at approximately the same time as the collection of effluent samples. Receiving water monitoring is not required if flow upstream of the discharge is so low that collected samples would not be representative of the quality of the receiving water. No-flow or low-flow receiving water conditions that preclude sampling shall be reported in quarterly monitoring reports. Receiving water monitoring shall include at least the following and be performed at the sample stations associated with the approved discharge point in use:

<u>Station</u>	<u>Description</u>
R - 1	100 feet upstream from Discharge 001
R - 2	100 feet downstream from the point of Discharge 001
R - 3	100 feet downstream from the point of Discharge 003

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>	<u>Monitoring Station</u>
Estimated Flow	cfs	Estimation	Monthly	R-1, R-2, R-3
pH	pH units	Grab	Monthly	R-1, R-2, R-3
Conductivity @ 25°C	µmhos/cm	Grab	Monthly	R-1, R-2, R-3
Dissolved Oxygen	mg/L	Grab	Monthly	R-1, R-2, R-3
Copper	µg/L	Grab	Monthly	R-1, R-2, R-3
Chloromethane ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
Chloroform ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
1,1-Dichloroethane ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
1,1-Dichloroethylene ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
cis-1,2-Dichloroethylene ²	µg/L	Grab	Monthly	R-1, R-2, R-3
trans-1,2-Dichloroethylene ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
Tetrachloroethylene ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
1,1,1-Trichloroethane ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
1,1,2-Trichloroethane ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
Trichloroethylene ¹	µg/L	Grab	Monthly	R-1, R-2, R-3

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>	<u>Monitoring Station</u>
Vinyl Chloride ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
1,2-Dichloroethane ¹	µg/L	Grab	Monthly	R-1, R-2, R-3
Other VOCs ^{1,3,4}	µg/L	Grab	Quarterly	R-1, R-2, R-3

¹ Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

² Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

³ All typical volatile organic constituents listed in Appendix 4 of the SIP.

⁴ VOCs = Volatile Organic Compounds.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1, R-2, and R-3. Attention shall be given to the presence or absence of:

- | | |
|---|---|
| a. Floating or suspended matter | b. Discoloration |
| c. Bottom deposits | d. Aquatic life |
| e. Visible films, sheens, or coatings | f. Fungi, slimes or objectionable growths |
| g. Potential nuisance conditions | |
| i. Livestock in or near receiving water | |

Notes on receiving water conditions shall be summarized in the monitoring report.

THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity in the receiving water. The testing shall be conducted as specified in EPA/821/R-02/013, or later amendment. Chronic toxicity samples shall be collected at the last point of discharge prior to its entering the receiving water. Time of samples collection shall be recorded. The effluent tests must be conducted with concurrent reference toxicant tests. Monthly laboratory reference toxicant tests may be substituted upon approval. Both the reference toxicant and effluent tests must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species:	<u>Pimephales promelas</u> , <u>Ceriodaphnia dubia</u> , and <u>Selenastrum capricornutum</u>
Frequency:	One time no more than 365 days and no less than 180 days prior to expiration of this Order

Dilution Series:

	<u>Dilutions (%)</u>					<u>Controls</u>	
	100	50	25	12.5	6.25	Receiving Water	Lab Water
% Effluent	100	50	25	12.5	6.25	0	0
% Dilution Water*	0	50	75	87.5	93.75	100	0
% Lab Water	0	0	0	0	0	0	100

*Dilution water may be uncontaminated receiving water, a standard synthetic (reconstituted) water, or another acceptable dilution water as defined in Section 7 of EPA/821/R-02/013.

IRRIGATION VOLUME DOCUMENTATION

Records of the volume of discharge to the irrigation fields shall be maintained on a weekly basis and copies submitted with the quarterly monitoring reports.

REPORTING

Monthly monitoring results may be submitted with quarterly monitoring results as described below unless the results show an apparent violation. If results show an apparent violation, monthly results must be submitted to the Regional Board by the **1st day of the second month** following sample collection until the apparent violation is resolved. Quarterly monitoring results shall be submitted by the **1st day of the second month** following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November) following each calendar quarter. Annual monitoring results shall be submitted by 1 February of each year.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month should be determined and recorded.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

- a. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.

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- b. A statement certifying when monitoring instruments and devices were last calibrated (for purposes of assuring compliance with this Order), including identification of who performed the calibration (Standard Provision C.6).
- c. A statement certifying whether the current operation and maintenance manual and contingency plan reflect the Facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
- d. Both tabular and graphical summaries of the monitoring data obtained during the previous year.

Monitoring data shall also be submitted in electronic format acceptable to the Executive Officer (e.g. Microsoft Excel). The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

In reporting results for volatile organics, a complete list of all substances, which are tested for and reported on by the testing laboratory, shall be provided to the Regional Board. Detection limits shall equal or be more precise than effluent constituent limits included in the adopted waste discharge requirements, or equal to EPA detection limits for the 500 series method, whichever is lower.

The Discharger shall state in its quarterly monitoring reports whether breakthrough of the carbon vessels is estimated to occur during the current quarter and, if so, the anticipated month.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

Ordered by: _____ THOMAS R. PINKOS, Executive Officer

(Date)